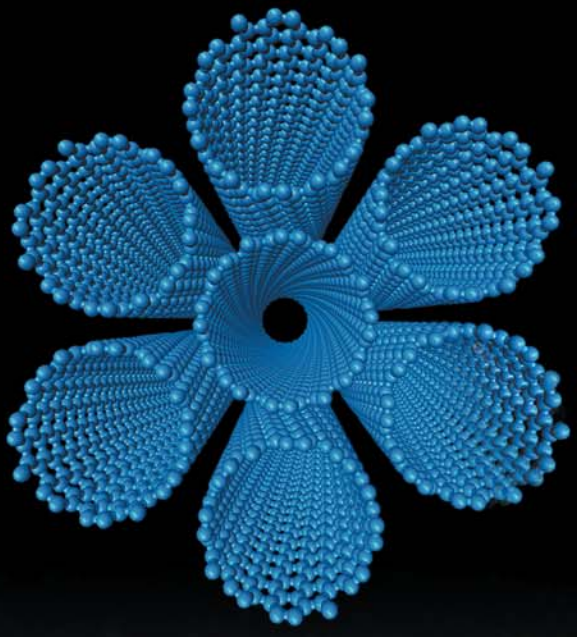
NATIONAL NANOTECHNOLOGY INITIATIVE

RESEARCH AND DEVELOPMENT SUPPORTING THE NEXT INDUSTRIAL REVOLUTION

SUPPLEMENT TO THE PRESIDENT'S FY 2004 BUDGET



EXECUTIVE OFFICE OF THE PRESIDENT OF THE UNITED STATES
NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

About the National Science and Technology Council

The National Science and Technology Council (NSTC) was established by Executive Order on November 23, 1993. This cabinet-level council is the principal means by which the President coordinates science, space, and technology policies across the Federal Government. NSTC acts as a virtual agency for science and technology to coordinate the diverse parts of the Federal research and development enterprise.

An important objective of the NSTC is the establishment of clear national goals for Federal science and technology investments in areas ranging from information technologies and health research to improving transportation systems and strengthening fundamental research. The Council prepares research and development strategies that are coordinated across Federal agencies to form a comprehensive investment package that is aimed at accomplishing multiple national goals.

Please call the NSTC Executive Secretariat at 202-456-6101 to obtain additional information regarding the NSTC, or see http://www.ostp.gov/NSTC/html/NSTC_Home.html.

About the Office of Science and Technology Policy

The Office of Science and Technology Policy (OSTP) was established by the National Science and Technology Policy, Organization and Priorities Act of 1976. OSTP's responsibilities include advising the President in policy formulation and budget development on all questions in which S&T are important elements; articulating the President's S&T policies and programs; and fostering strong partnerships among Federal, state and local governments, and the scientific communities in industry and academe. The Director of OSTP also serves as Assistant to the President for Science and Technology and manages the NSTC for the President.

Please call 202-456-7116 to obtain additional information regarding the OSTP, or visit the OSTP web site at: http://www.ostp.gov/.

About this document

This document is a supplement to the President's FY 2004 Budget Request submitted to Congress on February 4, 2003. It provides a summary of the organization and management of the National Nanotechnology Initiative, highlights recent accomplishments, and outlines the challenges and vision for the coming fiscal year and beyond.

About the cover

Front cover: Image of multiple single wall nanotubes provided courtesy of Columbia University Center for Electron Transport in Molecular Nanostructures.

Back cover: Illustration of well-ordered structure of ZnS nanoparticle when exposed to water molecules (shown in blue at surface of particle), courtesy of Zhang, Gilbert, Huang, & Banfield (University of California, Berkeley).

Background graphic at bottom of entire cover courtesy of L.J. Whitman, Naval Research Laboratory.

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National Nanotechnology Initiative

Research and Development Supporting the Next Industrial Revolution

Supplement to the President's FY 2004 Budget

National Science and Technology Council
Committee on Technology
Subcommittee on Nanoscale Science, Engineering, and Technology

Report prepared by

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EXECUTIVE OFFICE OF THE PRESIDENT
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August 29, 2003

MEMBERS OF CONGRESS:

I am pleased to forward with this letter a report on the multi-agency National Nanotechnology Initiative (NNI). Federal investments under the NNI in nanoscale science and engineering research and development (R&D) are extending the frontiers of scientific knowledge and leading to technological advances that have the potential to impact virtually every facet of industry and society. For example, nanoscale science and engineering may one day enable real-time medical diagnoses, enhanced imaging, and targeted drug delivery; efficient manufacturing processes that reduce waste and pollution; new methods for energy conversion and storage; and generations of electronic devices that are smaller, faster and cheaper. Applications that draw on advances in multiple disciplines, such as chemistry, physics, biology and materials, are blurring the distinctions of traditional scientific domains and creating a new culture of interdisciplinary science and engineering.

A recent report of the National Research Council (NRC), *Small Wonders, Endless Frontiers*, underscored the importance of nanoscale science and engineering research and praised the NNI for its role in coordinating interagency nanotechnology funding. To further strengthen this initiative, the NRC panel made several recommendations, including establishing a means for directing advice from the private sector to those in the Federal Government who are managing and coordinating the R&D program, developing strategic goals—and metrics with which to measure progress towards them, increasing interdisciplinary and cross-agency research, stimulating partnerships with industry, and leveraging regional, state, and local initiatives.

The Administration is committed to addressing these and other recommendations by the NRC panel. As a first step, an external advisory board will review and provide advice aimed at strengthening the NNI. The President's Council of Advisors for Science and Technology (PCAST), with expertise relevant to nanotechnology or the management of large-scale, multidisciplinary research and development programs, is conducting this external review.

Investments in nanoscale science and technology R&D are essential to achieving the President's top three priorities: winning the war on terrorism, securing the homeland, and strengthening the economy. Programs such as the NNI will help ensure our global leadership in nanotechnology and the many areas that it impacts.

Sincerely,

John Marburger

John H. Marburger, III
Director

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